

Claims

1. A computer component heater operably coupled to a pulse width modulation (PWM) power controller, said power  
5 controller in operation varying a PWM duty cycle in relation to the voltage of the power source supplying the heater.
2. Apparatus according to claim 1 wherein the PWM duty  
10 cycle is related to the voltage of the heater's power source via a lookup table.
3. Apparatus according to either one of the preceding claims, wherein the power controller is operable to further  
15 vary a duty cycle in relation to a heater power dissipation dependent upon user preference.
4. Apparatus according to any one of the preceding claims, wherein the power controller is operable to further  
20 vary a duty cycle in relation to a temperature dependent heater wattage.
5. Apparatus according to any one of the preceding claims, wherein the heater comprises two heating elements  
25 with a total resistance in the range of 10 to 50 Ohms.
6. Apparatus according to any one of the preceding claims, wherein the PWM power controller is operable to control the power supply to the heater irrespective of  
30 whether a computer component with which it is associated currently has power.

7. Apparatus according to any one of the preceding claims, which is operable such that a user may select a temperature threshold at which to activate the heater.
- 5 8. Apparatus according to any one of the preceding claims, which is operable such that a user may select a degree of hysteresis between temperature thresholds at which to activate and deactivate the heater.
- 10 9. Apparatus according to any one of the preceding claims, which is operable such that a user may select a maximum heating duration.
10. Apparatus according to any one of the preceding  
15 claims, which is operable such that a user may select a battery protection voltage threshold.
11. Apparatus according to any one of the preceding claims wherein the heater's power supply comprises a vehicle  
20 battery.
12. A computer component heater operably coupled to a PWM power controller in accordance with any one of the preceding claims wherein the computer component is any one  
25 of;
- i. a hard disk;
  - ii. an LCD display; and
  - iii. a battery.
- 30 13. A computer component heater operably coupled to a PWM power controller in accordance claim 12 wherein the computer component comprises the heater.

14. A computer component heater operably coupled to a PWM  
power controller in accordance with any one of claims 12 to  
13 wherein the computer component comprises the PWM power  
5 controller.

15. A method of heating a computer component characterised  
by the steps of

- 10 i. operably coupling a computer component heater to  
a pulse width modulation (PWM) power controller;  
and
- ii. the power controller automatically varying a duty  
cycle in relation to the voltage of the power  
supply to the heater.

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16. Apparatus according to claim 1 and substantially as  
hereinbefore described with reference to the accompanying  
drawings.